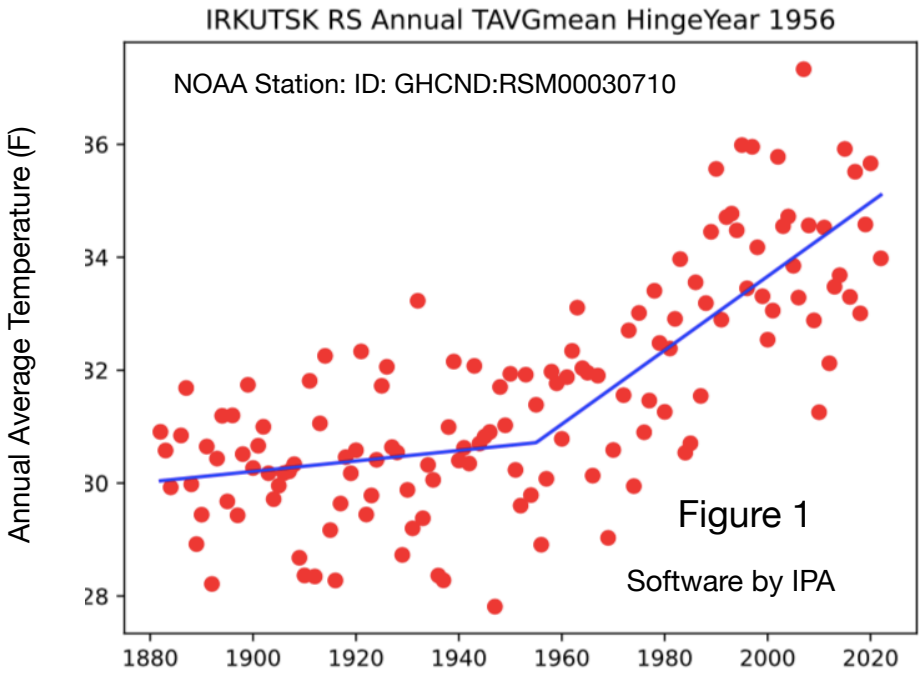
ARCTIC MEGA POWER STATIONS

Are they major drivers of climate change and global warming?

In 1956 near Irkutsk, the Soviets built a hydroelectric Arctic mega power station (AMPS) on the Angara River, a tributary of the Yenisei River. Even though, the apparent purpose of this dam and reservoir was to provide electric power to the region, it helped fulfill another goal of the Soviet Union: to warm the climate of Siberia and the Arctic.

This Angara River AMPS radically altered the 1880-1956 temperature trend (blue) line of the region. The red dots are average annual temperatures and the 1956 hinge year corresponds with the commissioning of the dam. Irkutsk's average annual temperature trend (blue) line from 1956 to 2022 documents warming at a rate about 4 times faster than the global average.



The Soviet Union had announced its plans in 1950 to use water vapor emissions, an especially powerful greenhouse gas, from its proposed mega reservoir hydroelectric power schemes to increase the wintertime humidity of central Siberia to provide the heat pollution to initiate the reduction and elimination of Arctic coastal sea ice. An example of Soviet intentions from a credible source: ***"For each step outlined here the computations have been made and verified; how much electric power can be produced; how great the evaporation will be; how many calories will be transmitted to the atmosphere in one area and taken to another to change the climate of the Arctic and the desert."*** By W. Mandel from California Eagle (Los Angeles, Ca.) 2 February 1950.

William Mandel highlighted the above statement in bold print to emphasize the Soviet research and hypothesis "**to change the climate of the Arctic**". The building of the colossal hydroelectric reservoirs was the experiment. The rapid increase in the precipitation and temperatures of central Siberia and the melting and disappearance of Kara Sea ice that coincides with the proliferation of these mega dams is worthy evidence that confirms the Soviet Arctic warming hypothesis outlined by Mandel.

The editor of the California Eagle highlighted in bold print Mandel's credentials.

"EDITOR'S NOTE: Mr. Mandel is a recognized authority on the Soviet Union. He is now writing a study of the Soviet Arctic for Vilhjalmur Stefansson's, Encyclopedia Arctica. He recently completed a survey of Soviet postwar Far Eastern policy for the Institute of Pacific Relations, which also commissioned his first book, "The Soviet Far East and Central Asia." Another book, "A Guide to the Soviet Union," has been used in many universities. In 1947, as senior fellow in Slavic Studies at the Hoover Institute, Stanford University, he compiled "An Encyclopedia of the U.S.S.R." During the war, he was the United Press' expert on Russia."

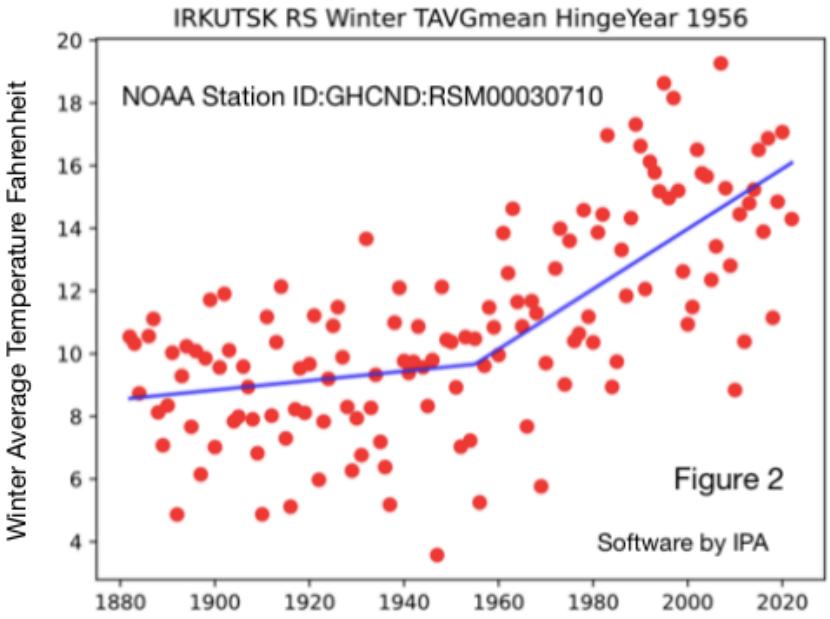
This 1950 newspaper article "is the story behind Soviet Foreign Minister Vishinsky's stunning declaration to the United Nations"..."*that Russia was razing mountains, irrigating deserts; cutting through the jungle and tundra in places where human footprints had not been seen for thousands of years*"..."*in order to change the climate of the Arctic and the deserts".*

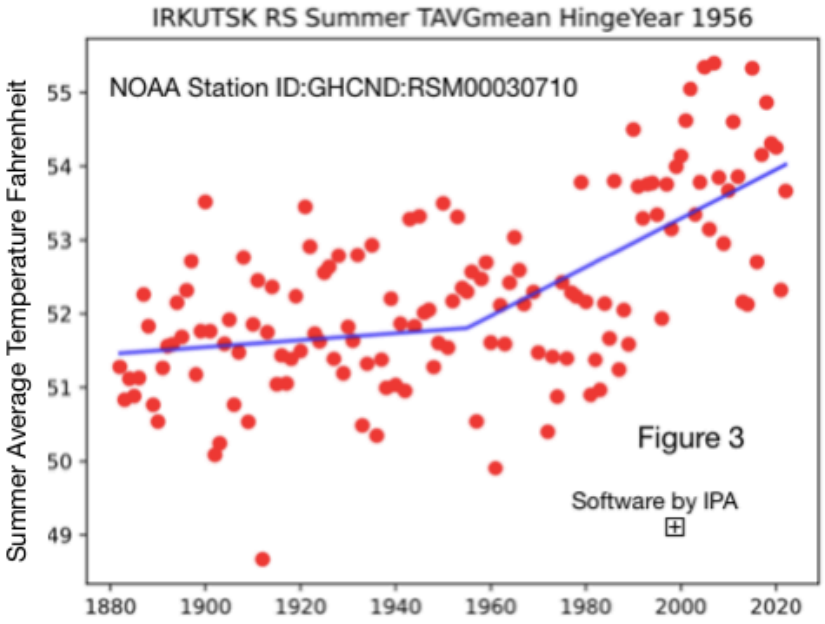
The Russians have successfully used summer and early fall solar absorption by the ice free reservoirs and water vapor emissions from the reservoirs's warm winter hypolimnial discharges into rivers, to force the warming of central Siberia.

Analyzing the six month summer average temperatures for May through October and the winter average for November through April, prior to and after the Irkutsk AMPS was built reveals that Irkutsk's winter average temperatures increased at a rate almost three times faster than for summer. (See Figures 2 and 3)

Compared to the global annual average temperature increase of about two degrees Fahrenheit over the past 100 years, the Irkutsk winter average is warming about five times faster.

The Soviets never hid their desire to radically alter the natural water cycle on river's flowing into the Arctic's coastal seas in order to increase the Arctic's humidity and precipitation.





Notes:
Recorded average temperatures exhibit year to year as well as longer term variations. A trend curve averages out short term changes and retains hypothesized behavior. Traditionally straight lines, which best fit the data, were used as trends. Over the last 3/4 century temperatures have increased so dramatically that trend curves need more flexibility than linearity to adequately fit temperature data. We used a trend curve, which we call a hinge, that consist of two lines joined at a year (called the hinge year) that best fits the temperature data for a given location. The hinge year is an appropriate mean or median time that the dams most effecting the given location went online. Individual Prediction Analysis (IPA)

For example, the attempt to weaken the Siberian High was revealed in the United States via a March 3,1958 article by William J. Perkins entitled “Soviets Plan Reversing Rivers, Melting Arctic to Warm Siberia” which appeared in the *Fort Worth Star-Telegram*. “The vast arid, cold steppes of eastern Siberia are the home of a vast high-pressure system of intense cold air, called the Siberian High. Western scientists believe that if Russia is able to alter the character of the ground over which this high pressure system is located, the character of the air mass itself will change.
Russia officially appears to share this view. In outlining, last August, a project now believed to be underway to divert the flow of two great Siberian rivers from the Arctic Ocean to form a vast inland sea among the arid steppes of central Asia, ***Moscow radio boasted: “Astonishing climatic changes would occur. . . evaporation (from the inland sea) would increase and with it the humidity of the air.*** *The extremes of yearly and daily temperature characteristics of these would be greatly modified. The rivers that would be diverted under the Russian plan announced that August were the Ob and Yenisei.”* (emphasis by S. Kasprzak)

The Siberian High is associated with extreme low humidity and little snow from November until April. Right where this key weather system forms, Russia built a series of *“vast inland seas"* between 1950 and 1980, five were on the Angara River and Yenisei; one on the Ob and another on the Irtysh, a tributary of the Ob. According to NASA, “Increasing water vapor leads to warmer temperature, which causes more water vapor to be absorbed into the air. Warming and water absorption increase in a spiraling cycle.”

These seven reservoirs, the Irkutsh, Bratsk, Ust-Ilmsky, Krasnoyarsk, Sayano-Shushenskaya, Novosibirsk and Bukhtarma hydroelectric reservoirs are also mega human-made water vaporizers, which did not go unnoticed by the Siberians. The rapid increase in humidity levels and air temperatures were noted in a September 14, 1975 *Miami Herald* article by John Dornberg entitled, **Huge man-made lakes warming up Siberia:**...“*Ten years after its completion... the Bratsk dam and others like it along the Angara have warmed up central Siberia by at least 10 degrees” and* ***“In effect, what the Russians have done in their drive to industrialize Siberia and exploit its enormous wealth of raw materials is to create inland oceans which account for more rain, more humidity, less seasonal fluctuation in temperature and more frequent change in the weather.”*** Emphasis by S. Kasprzak)

It took less than 20 years for the Soviets to successfully test their hypothesis on how to force the warming of Siberia with colossal surface water storage and water vapor emissions. It is my hypothesis that the impact of AMPS has been the most significant factor increasing Siberian humidity and temperatures, perhaps even surpassing the impact of carbon emissions.